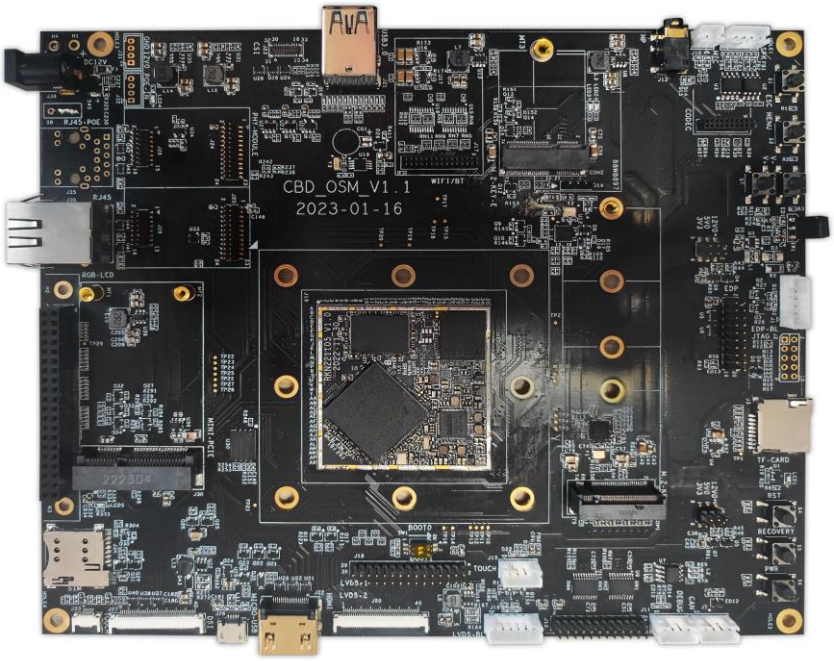
深 圳 金 亚 太 科 技 有 限 公 司

Shenzhen Geniatech Co.,Ltd.

SPECIFICATION

MODEL:DB-OSM-3568J



Confirmation

REVISION HISTORY					
VERSION	**DATE**	**BOARD ID**	**PAGE**	**DESCRIPTION**	**AUTHOR**
V1.0	2023/10/3		17	Initial Spec	

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CONTENT

1. GENERAL DESCRIPTION

DB-SOM-3568J is a new design board model based on RK3568J developed by Rockchip. RK3568J is a high-performance and low power quad-core application processor designed for industrial mobile internet device and AIoT equipment, with powerful hard decoding capability and rich interfaces, can quickly realize project research and production only by expanding the functional baseplate, which can be applied to AIOT Internet of Things equipment, industrial control equipment, Vending machine, commercial display equipment and other outdoor application in high or low temperature environment. Below is the detailed specification：

(I) Designed by the OSM V1.1 standard, the core board size is only 45mm x 45mm (Size-L), which can save more precious space, and the carrier board size is 200mm x 168mm.

(II) Rockchip RK3568J with Quad-core Cortex-A55 and Mali-G52-2EE GPU

(III) Support up to 8GB RAM, 128GB eMMc flash

(IV) Supports MIPI-DSI/eDP interface, and multi-format 4K 60fps video decoding (H.265, H.264, VC-1, MPEG-1/2/4, VP8), 1080P (H.264, VP8 format) video encoding.

(V) With rich interfaces such as I2C, UART, SPI, SDIO3.0, USB, and others

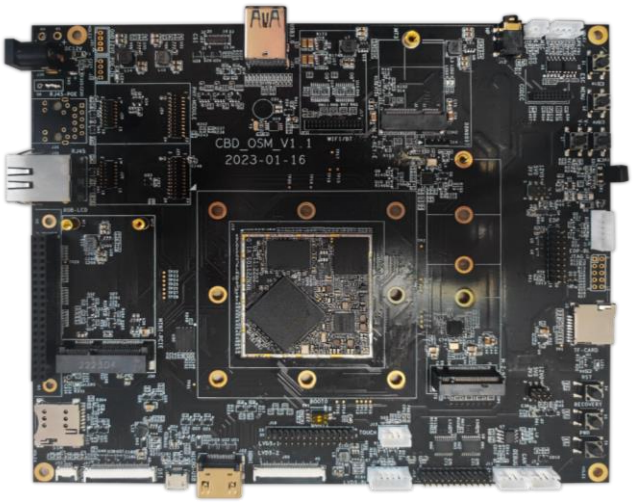
(VI) Supports Android, Linux multiple operating system, the performance is stable and reliable

(VII) Stable operation at extended commercial (-40 °C ~ 85°C) working temperature for 7X24 hours

(VII) delivery period for long product life cycle

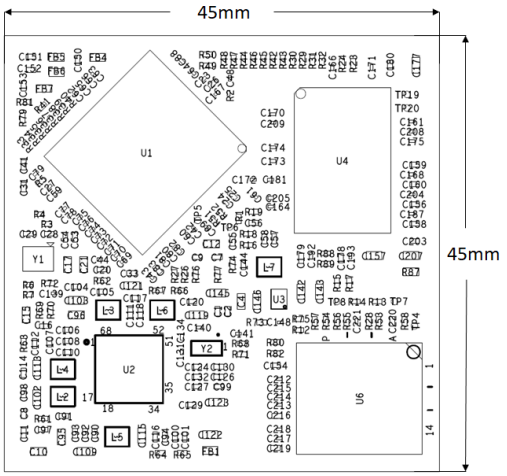
2. PRODUCT PICTURES

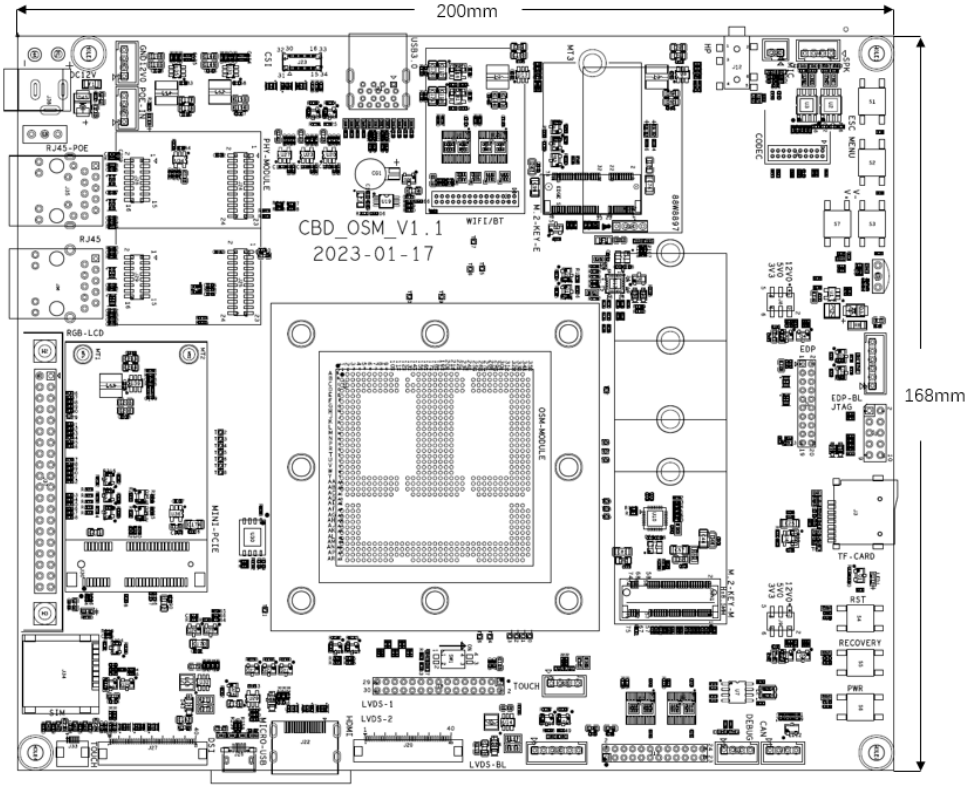
Below pictures are for reference only:



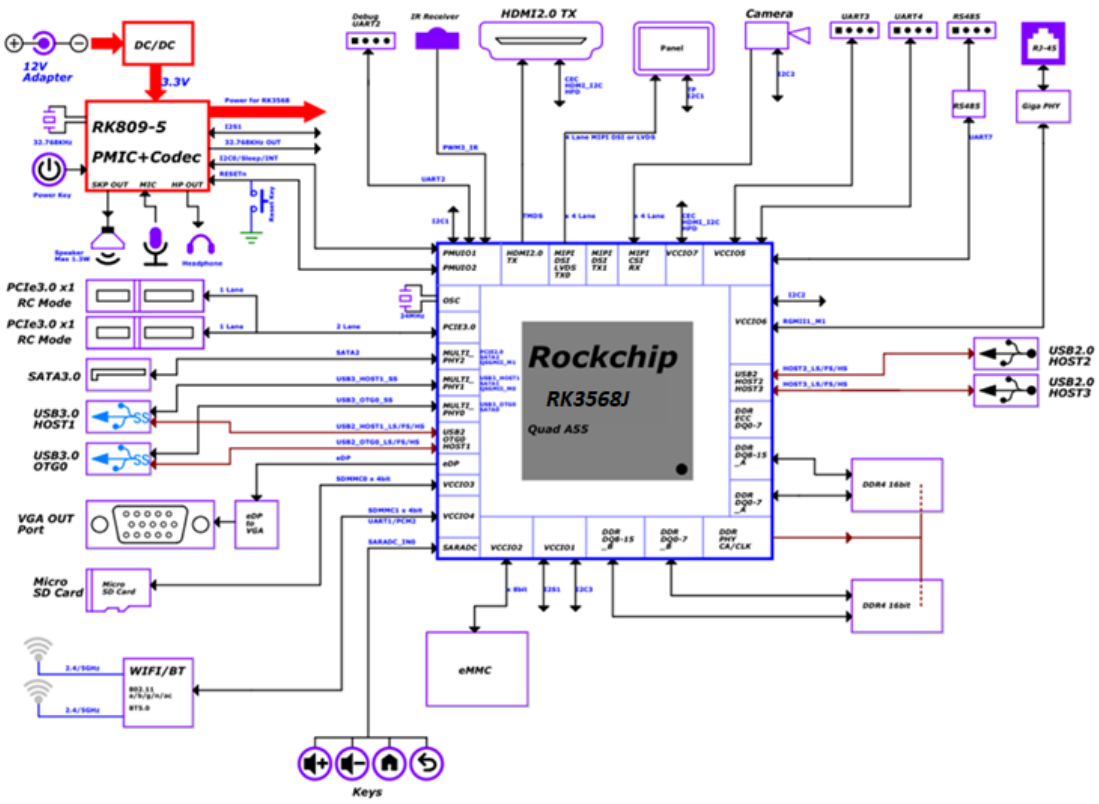
3. BOARD VIEW

3.1 DIMENSION





3.2 BLOCK DIAGROM



4. FEATURES

Chipset	Rockchip RK3568J	
Market area	Global	
OSD Language	English/Chinese(multi language OSD)	
Processor	CPU	Quad-core Cortex-A55， frequency up to 2.0GHz
	GPU	Mali-G52-2EE GPU
	NPU	1Tops@INT8, integrated AI accelerator RKNN NPU
	VPU	Supports 4K 60fps H.265/H.264/VP9 video decoding Supports 1080P 60fps H.265/H.264 video encoding
	RAM	2GB (4GB/8GB Optional)
	ROM	16GB（8G/32G/64G/128G Optional）
Network	Ethernet	2 x RJ45, 1000M
	WiFi	Extend WiFi & Bluetooth via SDIO3.0
Display	Support HDMI/eDP/MIPI-DSI interface	
USB	1 x USB 3.0 Host , 1 x USB 3.0 Host1, 1 x Micro-USB OTG	
Audio	1 x audio output	
Interface	I2C, UART, SPI, SDIO3.0, USB3.0, USB2.0, CAN,	
Dimensions	200 mm *168 mm	
Adapter	DC input voltage 12V	

5. SUPPORT FORMATS

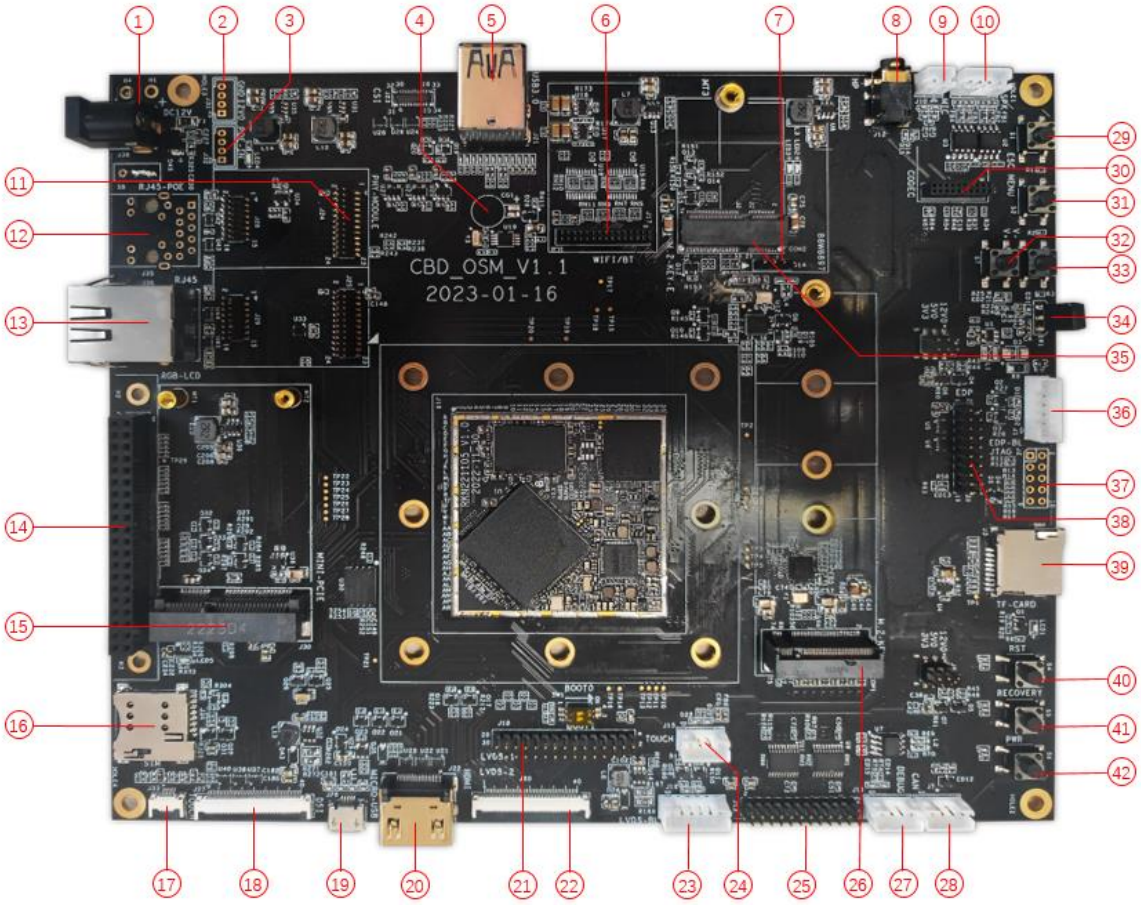
Video Decoder

- H.265 HEVC/MVC Main10 Profile yuv420@L5.1 up to 4096x2304@60fps
- H.264 AVC/MVC Main10 Profile yuv400/yuv420/yuv422/@L5.1 up to 4096x2304@60fps
- VP9 Profile0/2 yuv420@L5.1 up to 4096x2304@60fps
- VP8 verision2,up to 1920x1088@60fps
- VC1 Simple Profile@low, medium, high levels, Main Profile@low, medium, high levels, Advanced Profile@level0~3,up to 1920x1088@60fps
- MPEG-4 Simple Profile@L0~6,Advanced Simple Profile@L0~5,up to 1920x1088@60fps
- MPEG-2 Main Profile, low, medium and high levels, up to 1920x1088@60fps
- MPEG-1 Main Profile, low, medium and high levels, up to 1920x1088@60fps
- H.263 Profile0,levels 10-70,up to 720x576@60fps

Video Encoder

- H.264/AVC BP/MP/HP@level4.2， up to 1920x1080@60fps
- H.265/HEVC MP@level4.1, up to 1920x1080@60fps
- Support YUV/RGB video source with rotation and mirror

6. PRODUCT INTERFACE DEFINITION



No.	Name	Description
1	DC IN	12V/2A DC Power input
2	12VDC Connetor	12VDC Connector
3	POE IN	POE power input
4	RTC	Battery socket
5	USB3.0	2*USB 3.0
6	WIFI/BT	WIFI/BT module interface
7	88W8897	88W8897 WIFI/BT module interface
8	Line Out	1* HeadP Audio output
9	MIC	1* MIC input
10	Speaker	1* Speaker
11	PHY-Module	1* PHY-Module
12	RJ45-POE	100M/1000M Ethernet, POE input
13	RJ45	100M/1000M Ethernet
14	RGB-LCD	1* RGB-LCD

15	MINI-PCIE	1* MINI-PCIE
16	SIM	1* SIM socket
17	TP	1* Touch Pannel for I2C
18	DSI	1 * MIPI DSI
19	Micro-USB	1 * Micro-USB
20	HDMI OUT	1 * HDMI OUT
21	LVDS-1	1 * LVDS-1
22	LVDS-2	1 * LVDS-2
23	LVDS-BL	1 * LVDS Backlight
24	TP	1* Touch Pannel for USB
25	IO Interface	SPI,UART,CAN interface
26	M.2-KEEPER Connector	2* M.2-KEEPER Connector
27	Debug Connector	1*Debug Connector
28	CAN	1*CAN Connector
29	KEY	1* reserved key
30	CODEC	CODEC
31	KEY	1* reserved key
32	KEY	1* reserved key
33	KEY	1* reserved key
34	IR	1* IR
35	M.2_KEY_E	1 * PCIE M.2_KEY_E
36	EDP-BL	1 * EDP Backlight
37	JTAG	1 *JTAG Connector
38	EDP	1 * EDP
39	TF-CARD	1 * TF-CARD
40	RST	Restart key
41	Recovery	Recovery key
42	PWR	Power key

7. PRECAUTIONS FOR USE

1. Relative humidity: 10% ~ 90% .
2. Storage temperature: -40 ~ 90℃
3. Do not squeeze、distort or disassemble the board.
4. Keep the board away from static electricity .
5. Keep the board away from water and other liquid.
6. Clean the board with soft and clean dry cloth when it’s dirty.
7. Don’t use long connect wires which may affect performance and image quality.